

#### AMENDMENTS TO THE CLAIMS:

4. **(Amended)** A reactor for methanol synthesis comprising at least one reaction tube [wherein plural reaction tubes are] disposed on the inside thereof in communication with an upper chamber into which unreacted gas is fed; an inner tube [closed at a lower end thereof is] disposed almost in the center of the reaction tube to form a first passageway of circular cross section between the inner tube and reaction tube with the inner tube being closed at a lower end thereof, a charge of granular catalyst being stored in said first passageway; a central tube [is] disposed almost in the center of the inner tube with the central tube extending downwardly from said upper chamber a fixed distance above said lower end of said reaction tube for forming a second passageway of circular cross section between said central tube and said inner tube; [a circular space surrounded by the reaction tube and the inner tube is constituted as a granular catalyst-charged part;] a shielding plate for partitioning [in which at least one of the whole and a part thereof is detachable is disposed of] the upper end of said reaction tube from said upper chamber wherein said [; said central tube is connected almost to the center of the shielding plate; fed] unreacted gas flows downwards from said upper chamber through the upper part of the central tube flowing from said second passageway [to flow into the inner tube from the lower outlet of the central tube; and further, said unreacted gas flows upwards through a circular duct surrounded by the inner tube and the reaction tube and flows downwards from the upper part of the granular catalyst-charged

part] through said catalyst in said first passageway from the upper end of said first passageway.

5. (Amended) The reactor for methanol synthesis as described in claim 4, wherein the inner tube is disposed almost [in the center of the plural reaction tubes and closed at a lower end thereof is in an upper position than the lower end of the reaction tube.] vertically in said reaction tube.

6. (Amended) The reactor for methanol synthesis as described in claim 4, wherein said [the lower end of the] central tube has a length of between [disposed almost in the center of the inner tube is in a position which is farther by] 1/10 to 2/3 of the length of the reaction tube measured from the upper end of the reaction tube.

AMENDED CLAIMS:

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A 1 4. A reactor for methanol synthesis comprising at least one reaction tube disposed on the inside thereof in communication with an upper chamber into which unreacted gas is fed; an inner tube disposed almost in the center of the reaction tube to form a first passageway of circular cross section between the inner tube and reaction tube with the inner tube being closed at a lower end thereof, a charge of granular catalyst being stored in said first passageway; a central tube disposed almost in the center of the inner tube with the central tube extending downwardly from said upper chamber a fixed distance above said lower end of said reaction tube for forming a second passageway of circular cross section between said central tube and said inner tube; a shielding plate for partitioning the upper end of said reaction tube from said upper chamber wherein said unreacted gas flows downwards from said upper chamber through the upper part of the central tube flowing from said second passageway through said catalyst in said first passageway from the upper end of said first passageway.

5. The reactor for methanol synthesis as described in claim 4, wherein the inner tube is disposed almost vertically in said reaction tube.

6. The reactor for methanol synthesis as described in claim 4, wherein said central tube has a length of between  $1/10$  to  $2/3$  of the length of the reaction tube measured from the upper end of the reaction tube.

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